IN THE CLAIMS

1-7. (Cancelled)

8. (Presently amended) A method in a signal processor for filtering samples in a digital signal, the method comprising ~~The method of claim 1, wherein generating the approximate filtered sample further includes~~:

generating an approximate filtered sample as a function of two samples of the digital signal wherein the two samples are a first fixed-point sample, A, and a second fixed-point sample, B, wherein generating the approximate filtered sample includes:

calculating (A+B+1)>>1 wherein the ">>" represents a right-shift;

calculating E = ((A+B+1)>>1)<<S wherein the "<<" represents a left-shift;

calculating F = ((A+B+1)>>1)<<R; ~~and~~

calculating the approximate filtered sample as E + F;

wherein S and R are positive fixed-point number;

generating a correction as a function of the two samples; and

generating a filtered sample by modifying the approximate filtered sample with the correction.

.

9. (Previously amended) The method of claim 8, wherein generating the correction includes:

calculating Q =~(A ⊕ B) wherein the "~" represents a bit-wise complement;

masking Q with the number one;

calculating G = Q<<(S-1);

calculating H = Q<<(R-1); and

calculating the correction as G + H.

10. (Original) The method of claim 9, wherein generating the filtered sample includes:

calculating the filtered sample as the approximate filtered sampled added with the correction; and

right-shifting the filtered sample by N-1 bits, wherein N is a positive fixed-point number.

11. (Previously amended) A method in a signal processor for filtering samples in a digital signal, the method comprising ~~The method of claim 1, wherein generating the approximate filtered sample further includes~~:

generating an approximate filtered sample as a function of two samples of the digital signal wherein the two samples are a first fixed-point sample, A, and a second fixed-point sample, B, wherein generating the approximate filtered sample includes:

calculating (A+B+1)>>1 wherein the ">>" represents a right-shift;

calculating E = ((A+B+1)>>1)>>(N-1-S);

calculating F = ((A+B+1)>>1)>>(N-1-R); and

adding E with F;

wherein N, S and R are positive fixed-point numbers, and wherein

$N \geq S > R_s$

generating a correction as a function of the two samples; and

generating a filtered sample by modifying the approximate filtered sample with the correction.

12. (Previously amended) The method of claim 11, wherein generating the correction includes:

calculating $Q = \sim(A \oplus B)$ wherein the "~" represents a bit-wise complement;

masking Q with the number one;

calculating G = Q>>(N-S);

calculating H=Q>>(N-R); and

calculating the correction as G + H.

13. (Original) The method of claim 12, wherein generating the filtered sample includes calculating the filtered sample as the approximate filtered sample added with the correction.

14-15. (Cancelled)

16. (Previously amended) A method in a signal processor for filtering samples in a digital signal, the method comprising:

generating an approximate filtered sample as a function of two samples of the digital signal wherein the two samples are a first fixed-point sample, A, and a second fixed-point sample, B;

generating a correction as (A ⊕ B) OR (A ⊕ (A+B>>1)) wherein the ">>" represents a right-shift;

masking the correction with the number one; and

generating a filtered sample by modifying the approximate filtered sample with the correction.

17. (Previously amended) A method in a signal processor for filtering samples in a digital signal, the method comprising:

generating an approximate filtered sample as a function of two samples of the digital signal wherein the two samples are a first fixed-point sample, A, and a second fixed-point sample, B;

generating a correction as (A ⊕ (A+B>>1)); wherein the ">>" represents a right-shift;

bit-wise ANDing the correction with the number one; and

generating a filtered sample by modifying the approximate filtered sample with the correction.

18-46. (Cancelled)